

# Notice of Allowability

Application No.

10/013,084

Examiner

Daniel J Petkovsek

Applicant(s)

DAUTARTAS ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to supplemental amendment received October 18, 2004.
2. ☒ The allowed claim(s) is/are 1-8, and 10-29.
3. ☒ The drawings filed on February 2, 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 9/1/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**Brian Healy**  
Primary Examiner

### **DETAILED ACTION**

This office action is in response to the supplemental amendment received October 18, 2004. In accordance with the amendment, claims 1, 19, and 22 have been amended; claim 9 has been canceled; and new claim 29 has been added. It is noted that minor antecedent basis problems to claims 19 and 22 have been ameliorated by the Examiner's Amendment attached herewith.

#### ***Information Disclosure Statement***

1. The prior art documents submitted by Applicant in the Information Disclosure Statements filed on September 1, 2004, have been considered and made of record (note attached copy of forms PTO-1449).

#### ***Priority***

2. This application claims priority to U.S. provisional application Serial No. 60/255,865, filed December 14, 2000.

#### ***Allowable Subject Matter***

3. Claims 1-8, and 10-29 are allowed. The following is an examiner's statement of reasons for allowance: the relevant prior art of record does not teach or reasonably suggest the amended limitations in independent claims 1, 19, and 22, which include "wherein the frame *defines an opening from the top surface to the bottom surface*, and the optical semiconductor component disposed in the opening". The closest prior art of record (U.S.P. No. 6,320,257 to Jayaraj et al.) teaches the previous claim limitations, but does not teach or reasonably suggest the structural limitation having the frame 122 (see Fig. 8C of Jayaraj et al. '257) with an opening from its top surface to its bottom surface, the semiconductor component disposed in said opening.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

4. Applicant's arguments, see amendment, filed October 18, 2004, with respect to the amendments to independent claims 1, 19, and 22, have been fully considered and are persuasive. The 35 U.S.C. 102 (e) and 35 U.S.C. 103 (a) rejections to claims 1-17 and 19-28 have been withdrawn. The amended limitation is allowable over the relevant prior art to Jayaraj et al. '257, as fully addressed above in the "Reasons for Allowance" section.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (571) 272-2355. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Petkovsek  
November 17, 2004



**Brian Healy**  
**Primary Examiner**

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Jonathan D. Baskin (Reg. #39,499) on November 18, 2004.

The application has been amended as follows ([removed], added):

19. (Currently Amended) A method for making an optical device package comprising:

- a) mounting an optical fiber to a substrate comprising an upper surface;
- b) forming a conductive trace on the upper surface of the substrate;
- c) mounting a frame to the substrate, the frame comprising a frame [upper] top

surface with at least one solder pad thereon and a bottom surface, and a conductive via extending from the solder pad to the conductive trace, the frame defining an opening from the top surface to the bottom surface; and

d) mounting an optical semiconductor component on the substrate in the opening in contact with the conductive trace and in alignment with the optical fiber.

22. (Currently Amended) A method for assembling an electronic circuit comprising:

- a) providing an optical device package which comprises

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- i) a substrate comprising an upper surface;
- ii) an optical semiconductor component mounted to the substrate;
- iii) an optical fiber mounted to the substrate in alignment with the optical semiconductor component;
- iv) a frame mounted to the upper surface of the substrate, the frame comprising [an upper] a top surface with a patterned array of solder balls thereon and a bottom surface, and at least one conductive pathway extending from each solder ball to the upper [major] surface of the substrate, wherein the frame defines an opening from the top surface to the bottom surface, and the optical semiconductor component is disposed in the opening; and
- v) at least one conductive trace electrically connecting the at least one conductive pathway and the optical semiconductor component;
- b) providing a circuit board comprising a patterned array of bonding pads which is a mirror image of the patterned array of solder balls on the frame;
- c) inverting and positioning the optical device package such that individual solder balls of the patterned array solder balls of the optical device package are in contact with corresponding individual bonding pads of the patterned array of bonding pads on the circuit board; and
- d) fusing the solder balls to the corresponding bonding pads.

*Conclusion*

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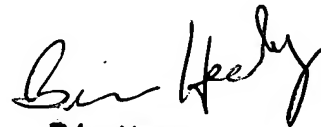
The examiner can normally be reached on M-F 8:30-5:00.

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Daniel Petkovsek  
November 17, 2004



Brian Healy  
Primary Examiner